

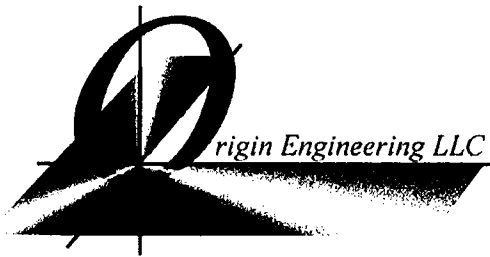
ELLIOTT v FORD  
CV 2004 0902 PHX SRB

Exhibit Index: Ford's Motion to Strike Portions of Plaintiff's Statement of  
Facts In Response to Ford's Motion for Summary Judgment

- A. Dr. Jarrod Carter's Report.
- B. Excerpts from Geoffrey L. Mahon's Deposition Transcript.
- C. Excerpts from Mike Shepston's Deposition Transcript.

**EXHIBIT A**

---



Principals:

Jarrod W Carter, PhD

John L Habberstad, PhD, PE

---

12314 East Broadway Avenue / Spokane, WA 99216 / (509) 926-2566 / Fax: (509) 926-2606

July 5, 2006

Jill Goldsmith  
Bowman and Brooke  
2901 N. Central Avenue, Suite 1600  
Phoenix, Arizona 85012-2736

## **PRELIMINARY RECONSTRUCTION REPORT**

### **Case: Elliott v. Ford (05-216)**

The following is my preliminary report concerning a two-vehicle rear-end collision that occurred on May 21, 2002 at approximately 8:32 am. The collision occurred on East Bethany Home Road approximately 155 feet east of its intersection with North 4th in Phoenix, Arizona.

The first vehicle listed in the police report is a 1996 Ford Contour 4-door sedan. This vehicle was being operated westbound on East Bethany Home Road by Karen Elliott. Traveling westbound in front of the Contour was a 2001 Chevrolet Blazer 4-door SUV being operated by Ashley Echer (Hardy).

According to the police report the Blazer was stopped in the inside lane when it was struck from behind by the Contour. The investigating officer estimated an impact speed for the Contour of 35 mph. Alternatively, Mrs. Hardy stated in her depo that she was traveling at 10 to 15 mph when the impact occurred. She also testified that the Contour was traveling 40 mph just before impact.

## **MATERIALS REVIEWED**

Prior to preparing this report the following materials were reviewed:

- Arizona Traffic Accident Report
- 1st Amended Complaint
- Answer of Defendant Autoliv, Inc. to Plaintiff's 1st Amended Complaint and Demand for Jury Trial

- Initial Disclosure Statement
- Rule 16 Scheduling Order
- Initial Disclosure of TRW Vehicle Safety Systems, Inc.
- Plaintiff's Responses to Defendant TRW's Combined Discovery Requests to Plaintiff Karen Elliott
- Plaintiff's Responses to Defendant TRW's 1st Set of Requests for Admission
- Plaintiff's Responses to Defendant Ford Motor Co.'s 1st Set of Interrogatories to Plaintiff
- Defendant Ford Motor Co.'s Response to Plaintiff's Request for Admissions
- Dealer Invoice
- Defendant Ford Motor Co.'s Initial Disclosure Statement
- Separate Answer to Plaintiff's 1st Amended Complaint and Jury Demand of Defendant Ford Motor Co.
- Laser copies of photos from unknown source
- CD containing Vehicle Inspection Photos rolls A-E taken by Carr Engineering - 5/6/2005
- 2 Video tapes of Vehicle Inspection on 5/6/05
- Carr Engineering Vehicle Inspection Notes
- Amended Scheduling Order
- CD Titled, "1996 Ford Contour 7/14/05 Phoenix AZ: DVD Video, JPEG and PDF photos" from Collision Protection Sciences LLC
- Plaintiff's 2nd Supplemental Disclosure Statement
- Plaintiff's 3rd Supplemental Disclosure Statement
- First Report from Canyon State Adjusters, Ltd.
- CD containing Employment Records for Karen Elliott from Plaintiff's 3rd Supplemental Disclosure Statement
- CD containing Expert Reports from Plaintiff's 2nd Supplemental Disclosure Statement
- Medical Records of Karen Elliott from John C. Lincoln Hospital

- Records from Shamrock Towing
- Laser copies of Vehicle Photos taken by Investigation Specialists, LTD – 8/25/05
- Records from City of Phoenix Fire Department
- Plaintiff's 5th Supplemental Disclosure Statement
- Plaintiff's 4th Supplemental Disclosure Statement
- Plaintiff's 6th Supplemental Disclosure Statement
- Laser copies of photos of vehicle removal from Dan Burr – 10/24/05
- DVD of vehicle inspection by Mike Scott, PhD – 10/31/05
- Traffic Citation for Driver of Ford Contour
- Duplicate copy of traffic citation for driver of Ford Contour
- Exam records of Karen Elliott from Pamela Lund, MD – 1/2/01
- Plaintiff's 8th Supplemental Disclosure Statement
- Plaintiff's Responses to Defendant Ford Motor Co.'s 2nd Requests for Admission
- Plaintiff's Response to Defendant Ford Motor Co.'s 2nd Set of Interrogatories
- Plaintiff's 9th Supplemental Disclosure Statement
- Invoices from Courtesy Chevrolet
- Plaintiff's 10th Supplemental Disclosure Statement
- Report of Michael Shepston – 4/13/2006
- Report of Robert Anderson – 4/13/2006
- Plaintiff's 11th Supplemental Disclosure Statement (Trial Witnesses)
- CD titled, Robert D. Anderson '96 Ford Contour
- Plaintiff's 12th Supplemental Disclosure Statement
- Additional documents – Bates No. ELL002334 through ELL002363
- Duplicate copy of CarFax reports for both Blazer and Contour

- CD titled, Photos of Karen Elliott Photos of Vehicle Produced by Plaintiff
- Accident report from prior accident the Blazer was in
- CD containing Report & Photos from Geoffrey Mahon (photos not in binders)
- Plaintiff's 14th Supplemental Disclosure Statement
- Plaintiff's 13th Supplemental Disclosure Statement
- CD containing Exemplar and Surrogate inspection photos taken by Mike Scott – 4/21/06
- CD containing vehicle inspection photos rolls F-G from Carr Engineering – 5/25/06
- CD titled, Collision Protection Sciences 1996 Ford Contour 7/17/05 by Gregory Miller
- Carr Engineering Vehicle Inspection Notes – 5/25/06
- Color photos of the subject Blazer taken by Canyon State Adjusters the day after the subject incident
- State Farm insurance records
- Crash test materials ELLIOTT 017399, ELLIOTT 017400, ELLIOTT 023415, F 96033, F 96034, F 96181, F 96242, F 96243 ELLIOTT 023417
- Depositions of Leslie Edison, Karen Elliott, Alan Gordon, Ashley Hardy, Glenn Larson, Gary Mackman (Vols I & II), Dean Pedrotti, Errol Sweet, Steven Wiener, Wiley Williams
- Expert depositions of Robert Anderson, Geoffrey Mahon, Michael Shepston
- Deposition exhibits for Geoffrey Mahon, Robert Anderson, and Michael Shepston

## **WORK COMPLETED**

Prior to preparing this report the following work was completed:

- Inspected photographed and measured subject 1996 Ford Contour 4-door sedan (VIN – 3FALP6537TM116320) on November 18, 2005
- Inspected, photographed, measured, and removed front fascia from subject Contour on May 25, 2006
- Inspected, photographed, and measured an exemplar 1995 Ford Contour 4-door sedan (VIN – 1FALP6538SK205951)

- Inspected, photographed, and measured subject 2001 Chevrolet Blazer 4-door (VIN – 1GNCS13W912223258) on November 18, 2005 and again on May 25, 2006
- Inspected, photographed, and measured an exemplar 2000 Chevrolet Blazer 4-door (VIN – 1GNDDT13W4Y2164941)
- Inspected and photographed the accident scene November 18, 2005
- Conducted two crash tests, one on June 27, 2006 and a second one on June 30, 2006

## **DISCUSSION**

During my first inspection of the Ford Contour I found little if any damage to the front bumper as measured along the polymer front bumper cover. However, I did observe damage to the upper radiator support, suggesting that the impact was more severe than what was measurable on the front bumper cover.

Following, my first inspection I did request, and was granted permission, to remove the front bumper cover so that an inspection of the underlying bumper structure could be made. With the cover removed I found that the Contour was equipped with an energy absorbing polymer bumper beam. The bumper beam had sustained observable and measurable damage.

In general the following damage was noted to the front of the Contour:

- Stress cracking and buckling of the left corner of the polymer front bumper cover
- Distinct impressions in the leading edge of the bumper cover produced by the rear bumper of the Blazer
- Various cuts and scrapes of the front bumper cover
- Rearward deformation across the balance of the polymer front bumper beam
- Buckling/bending of the front bumper beam at the mounting points
- Fracture of the front bumper beam near the left end in the area of the left-front mounting point
- Fracture of the grill and the underlying support structure for the grill and front headlights
- Rearward deformation and bending of the upper radiator support
- Localized contact damage to the leading edge of the hood
- General induced bending of the hood

Following, my second inspection I requested that Exponent be tasked with digitizing the vehicle so that the damage, particularly on the bumper beam and upper radiator support, could be accurately measured. The results of comparing the digitization data from subject Ford Contour with an exemplar revealed that the bumper beam and radiator support sustained, on average, 0.55 inches and 0.56 inches of crush, respectively.

My analysis of this particular incident is based upon crash testing that was conducted at my direction. The testing was conducted at Exponent's Test and Engineering Center in Phoenix, Arizona. The purpose of the testing was to closely approximate the damage to the accident Contour on an undamaged Contour. This was done by first running a test where an exemplar 1996 Ford Contour traveling at approximately 9 mph rear-ended a stationary exemplar 2001 Chevrolet Blazer, consistent with Mr. Shepston's opinion on closure speed.

The test configuration was such that the centerline of the Blazer was offset 12 inches to the left of the Contour's centerline at impact. Also, the front end of the test Contour was lowered in order to produce witness marks on the front fascia consistent with those noted on the subject Contour.

After the test the Contour was digitized so that the crush produced could be compared to the subject vehicle. The Blazer was also digitized.

The actual test speed was 8.8 mph. The Contour underwent a speed change of 6.9 mph. The Blazer sustained a speed change of 5.5 mph. The computed coefficient of restitution was 0.41. The crush damage sustained by the test Contour was 0.16 inches on average. Since, the damage in this test was substantially less than that observed on the subject Contour a second test was undertaken to more closely approximate the accident damage.

The second test was configured similarly to the first test, except for the closure speed. Computations based on the data from the first test suggested a closure speed for the second test of 15 mph. The test was actually conducted at 15.2 mph. The Contour sustained a speed change of 10.8 mph. The Blazer sustained a speed change of 8.4 mph. The computed coefficient of restitution was 0.26. The average crush damage sustained by the Contour in test 2 was 0.42 inches, compared to 0.55 inches on the subject Contour. The upper radiator support visually appeared to be deformed, but not to the extent that was observed on the subject vehicle. Furthermore, the general appearance of the damage to the bumper beam, particularly in the area of the mounts, was similar to what I observed on the subject Contour. Thus, the damage sustained by the Contour in test 2 was similar to, but less than, the damage observed in the subject Contour.

The close approximation of the second test to the actual crash was further validated by comparing the damage to the subject Blazer, as highlighted in the Canyon State Adjuster photos and in the deposition of Ashley Hardy (Echer), to the damage sustained by the Blazer in each test. Particular attention was paid to significant frame damage documented/described by both sources along with Mrs. Hardy's representation that the rear doors could not be opened after the collision.



Following test 2, frame damage (bending) similar to that depicted in the Canyon State photos was noted on the right frame rail in the area of the right-rear kick-up. The left frame also sustained bending damage similar to that noted on the right frame rail. Also, the right-rear door was misaligned and would not properly close, suggesting slightly less damage than what was testified to by Mrs. Hardy. It is important to note that none of this damage was observed on the Blazer after test 1.

For both tests the airbag system in the Contour was active, but the airbags did not deploy in either test.

Using the data from the two tests that were conducted I was able to estimate the likely closure speed and change and velocity that would best approximate the conditions in the subject crash.

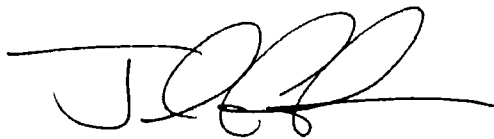
- At the time of the crash the closure speed between the Contour and the Blazer was approximately 18.5 mph
- The speed change sustained by the Contour as a result of the crash was in the range of 12.5 to 13.1 mph
- If the Blazer was actually moving at 10 to 15 mph at the time of the crash, per the testimony of Mrs. Hardy (Echer), then the Contour was traveling at 28.5 to 33.5 mph

I have thoroughly reviewed both the report and deposition of Michael Shepston in this matter. My understanding of his reconstruction can be represented with the following bullet items:

- Blazer stopped at impact
- No measurable damage to Contour
- Velocity change for the Contour was less than or equal to 5 mph because there was no measurable crush
- Contour traveling 9 mph at impact

I cannot find any basis for Mr. Shepston's opinions regarding impact speed or velocity change in his report, deposition, or deposition exhibits. It appears that he simply believes that because there was little or no damage the impact speed and velocity change are 9 and 5 mph, respectively. However, considering the results of test 1, which was conducted at the closure speed suggested by Mr. Shepston, it is clear that his opinions regarding closure speed and speed change are incorrect. Indeed, the actual closure speed and speed change in the subject crash are likely to be at least twice as high as what Mr. Shepston opines.

The opinions expressed in this report are given to a reasonable degree of engineering probability and are based on the information currently available and the work completed thus far. Should additional information become available I reserve the right to review the information, perform additional work, and amend/supplement this report as necessary.

A handwritten signature in black ink, appearing to read 'JC', with a horizontal line extending from the end of the signature.

---

Jarrod Carter

**EXHIBIT B**

---

UNITED STATES DISTRICT COURT  
DISTRICT OF ARIZONA

KAREN ELLIOTT, an individual,  
Plaintiff(s),

vs.

FORD MOTOR COMPANY, a Delaware  
Corporation, TRW HOLDINGS  
CORP., a Delaware Corporation,  
and AUTO LIV, INC., a foreign  
corporation,

Defendant(s).

---

DEPOSITION UNDER ORAL EXAMINATION OF  
GEOFFREY L. MAHON, P.E.

DATE: May 17, 2006

REPORTED BY: MICHAEL FRIEDMAN, CSR

ESQUIRE DEPOSITION SERVICES  
90 Woodbridge Center Drive  
Suite 340

Woodbridge, New Jersey 07095  
(732) 283-1060 or (800) 247-8366

JOB # 616222

G. L. Mahon, P.E.

1 correct that the 1996 Ford Contour as a  
2 multipoint electromechanical system -- does  
3 the air bag system in the 1996 Ford Contour  
4 contain a multipoint electromechanical sensor  
5 system?

6 A Yes, it does.

7 Q And your opinion in this case  
8 is that the sensor system in the 1996 Ford  
9 Contour is defective because it contains a  
10 dwell enhancer; am I correct?

11 A That is correct.

12 Q Have you read the deposition  
13 of Ms. Elliott?

14 A Yes, I have. I'm sure I have.

15 Q You have your deposition with  
16 you?

17 A I do. That will take me a minute.

18 (Witness reviewing.)

19 I stand corrected. I did not  
20 review the dep of Ms. Elliott.

21 Q I see that you appear to be  
22 going through some handwritten notes; is that  
23 correct?

24 A That is correct.

25 MS. GOLDSMITH: I would like to

G. L. Mahon, P.E.

1 the reason the air bag deployed under the  
2 circumstances of this accident is because  
3 this air bag system included a dwell  
4 enhancer?

5 A Yes.

6 Q What is the basis for that?

7 A The basis for my opinion that  
8 that's why it deployed? Is that the  
9 question? I want to understand the question.

10 Q Sure. What is the basis for  
11 your opinion that the reason the air bag  
12 deployed under the circumstances of this  
13 accident was the addition of the dwell  
14 enhancer?

15 A Okay, fine. The impact was a,  
16 first of all, very minor impact, and the  
17 velocity change of the vehicle was very low,  
18 so that what we had was a localized impact  
19 near the right front crush zone sensor which  
20 would have been a short, sharp impact, and  
21 short, sharp impacts are quite similar to the  
22 things that we see in deer hits, for example.

23 And the buildup of the velocity  
24 change of the vehicle in such an impact in  
25 the passenger compartment occurs much later

G. L. Mahon, P.E.

1     than the velocity change at the sensor, so  
2     while you might, in fact, get the closure of  
3     a safing sensor eventually, you don't get it  
4     simultaneously with the front discriminating  
5     sensor.

6             And this is been demonstrated in  
7     numerous 50-mile-an-hour simulated deer  
8     impacts performed by General Motors over the  
9     years which I have analyzed, and, in fact, is  
10    a test that the Ford Motor Company does not  
11    run, and therefore, they don't have the data.

12            Q     Any other basis for that  
13    opinion?

14            A     Knowledge of how the dwell enhancer  
15    works. Of course, it's necessary to  
16    understand what we mean by that, not  
17    knowledge of how the sensors work. Obviously  
18    you need to understand that as well, but I  
19    think that was implied in what I said, but in  
20    case it wasn't, I'm making sure that's part  
21    of it.

22            Q     Any other basis for your  
23    opinion?

24            A     I think that will do for the  
25    moment.

G. L. Mahon, P.E.

1           A       Let's begin with the drawings,  
2       because I don't know what drawings you're  
3       talking about.

4                       There may be a drawing for a  
5       Shotski diode somewhere, which I believe is  
6       the actual device in question, but again, I  
7       can't sit here and tell you I know what he  
8       did or did not do. It wasn't my turn to  
9       watch him.

10                  Q       Okay. Anyone else besides  
11       Chris Caruso who has said that the dwell  
12       enhancer is a bad idea?

13                  A       Well, I believe there were others.  
14       I'm not sure that I can name them and be  
15       absolutely positive they said that.

16                  Q       Your report does not reflect  
17       any opinions of manufacturing defect,  
18       correct?

19                  A       That's correct.

20                  Q       You have no opinions that  
21       the -- that the air bag system or any  
22       component thereof in the 1996 Ford Contour  
23       has a defect in manufacturing?

24                  A       That's correct.

25                  Q       You have no opinions that the



G. L. Mahon, P.E.

1 sensors in the 1996 Ford Contour in  
2 Ms. Elliott's vehicle cannot meet Ford's  
3 specifications?

4 A I replied earlier that I believe  
5 they did.

6 Q I think that was off the  
7 record when we spoke to Mr. Shumway. Let me  
8 put this on the record.

9 You would agree that the  
10 safing sensors and the discriminating sensors  
11 in Ms. Elliott's 1996 Contour passed all of  
12 the technology tests regularly performed on  
13 its ball in tube discriminating and safing  
14 sensors at the time those sensors came off  
15 the Breed Technologies assembly lines and  
16 would pass those same Breed technology tests  
17 at this time?

18 A First of all, there's no question  
19 they passed the tests or they wouldn't be in  
20 the car, and I believe they still would pass  
21 the tests.

22 Q You hold that belief to a  
23 reasonable degree of engineering probability?

24 A Yes, I do.

25 Q The tests performed by Breed

G. L. Mahon, P.E.

1 don't think was contributory in this case.  
2 This is not to say that I don't think they're  
3 inadequate or whatever, but in this case they  
4 were not contributory.

5 Q What does that mean?

6 A If we were to place the sensors in  
7 an area where I was happy with their  
8 placement and we still had a dwell enhancer,  
9 I think we would have the same result; so,  
10 therefore, moving the sensor or not doesn't  
11 affect the deployment.

12 Q There is nothing that  
13 prevented you from reflecting your criticism  
14 about the placement of the sensors in the  
15 1996 Ford Contour in this report we marked as  
16 Exhibit 3, correct?

17 A There was nothing prohibiting or  
18 preventing me, but it didn't seem relevant in  
19 this case.

20 Q The placement of the sensors  
21 in this vehicle are not relevant to any  
22 opinions of defect that you have, correct?

23 A In this case.

24 Q Am I correct about that?

25 A In this case, you're correct.

G. L. Mahon, P.E.

1           A       That's correct.

2                   MS. GOLDSMITH: To put on the  
3       record to both Mr. Shumway and to you, I  
4       will take the position that any opinions  
5       that you now have that don't appear in  
6       your report should be stricken, because  
7       your report was due with final opinions  
8       on or about the date you wrote it. So  
9       all I'm trying to do is just to speed  
10      things along so we can focus on the  
11      issues in this case, which is to rule  
12      out those things that are not at issue,  
13      just to be up front with you.

14                  MR. SHUMWAY: For the record, if  
15      your position ends up being that in  
16      order to put on evidence of an  
17      alternative safer design at the trial  
18      requires having a different placement  
19      that Mr. Mahon approves of the  
20      discriminating sensors, we're going to  
21      respond with a rebuttal report that  
22      addresses that issue.

23                  What Mr. Mahon's opinion is that  
24      this system is defective with a dwell  
25      enhancer, getting rid of it is the

G. L. Mahon, P.E.

1 alternative design that solves this  
2 problem. There is redesign --  
3 engineering redesign that would go with  
4 designing the replacement system, and if  
5 you're position is that we haven't met  
6 our alternative design report  
7 requirements with what he has said, if  
8 that's what your experts say, we will do  
9 a rebuttal report.

10 THE WITNESS: I'll leave it alone.

11 MS. GOLDSMITH: This is between  
12 lawyers.

13 Q Breed and you never told Ford  
14 that the location of the sensors in the  
15 bracketry were put in the wrong spots on this  
16 model vehicle, correct?

17 A Well, first of all, I'm not sure  
18 that I can speak for everyone at Breed.  
19 However, the way the sensor calibration  
20 process works, the OEM, namely Ford, chooses  
21 candidate locations which are instrumented.  
22 They then run a matrix of crashes that say,  
23 "Give us a sensor system which meets the  
24 requirements," such as fire at such and such  
25 or don't fire the air bag, and Breed runs a

G. L. Mahon, P.E.

1 number to find what the number velocity  
2 required to just close the sensor is, and  
3 that's how the sensor naming works.

4 Q Okay.

5 A Probably more than you ever wanted  
6 to know.

7 Q You're not going to express  
8 opinions about the aggressivity of the air  
9 bag, correct?

10 A That's correct.

11 Q You're not going to say the  
12 air bag in the 1996 Ford Contour is overly  
13 aggressive, correct?

14 A I'm not going to discuss  
15 aggressivity at all.

16 Q Your report does not reflect  
17 any opinion that the air bag deployed late in  
18 this accident, correct?

19 A That's correct.

20 Q You're not going to come to  
21 court and say, "this air bag is defective  
22 because it deployed late in this accident,"  
23 correct?

24 A Subject to any information which  
25 arises from subsequent tests performed in the

G. L. Mahon, P.E.

1 next few days or information provided by  
2 Ford's experts, that is correct.

3 Q Is there testing going on in  
4 the next few days?

5 A I believe there is the removal of  
6 the bumper facia and inspection and  
7 measurement. Maybe "testing" is the wrong  
8 term, but information coming in the next  
9 several days.

10 Q As you sit here today, you're  
11 not going to come to court and say that the  
12 air bag is defective because it deployed  
13 late?

14 A As I sit here today, that's  
15 correct.

16 Q Your report, Exhibit 3, does  
17 not reflect any opinion that Ford should have  
18 done additional or different testing on the  
19 air bag system that is the 1996 Ford Contour,  
20 correct?

21 A It's not listed in the opinion  
22 section. In the bottom of the report, it's  
23 critical, the fact Ford didn't run deer  
24 tests, I'm sure.

25 Q You have -- your report does

G. L. Mahon, P.E.

1 enhancer was removed, correct?

2 A For this case, that is correct.

3 Q Okay. You're not going to  
4 come to court and say that the design of the  
5 discriminating sensors and the safing sensors  
6 is defective, correct?

7 A I'm not sure I know what you mean  
8 by the question. When you say "design," are  
9 you talking about the components themselves,  
10 the sensor componentry?

11 Q That's correct. You're not  
12 going to come to court and criticize the  
13 sensor componentry?

14 A That is correct.

15 Q You have not attempted a  
16 reconstruction of this accident; you're  
17 relying on Shepston?

18 A That's correct.

19 Q You have not attempted to  
20 independently determine how the vehicles were  
21 aligned with each other at impact?

22 A Correct.

23 Q Do you know whether the delta  
24 V Mr. Shepston put in his report includes  
25 rebound?

G. L. Mahon, P.E.

1 heard in the past, and you don't get that  
2 information. In fact, the time to stop is a  
3 constant so it all holds together, and that  
4 is independent of the incoming velocity for  
5 the frontal barrier.

6 Furthermore, for my crash type,  
7 that is the center lying pole or a 30-degree  
8 angle barrier, as long as it's perfectly  
9 consistent over a wide change, the duration  
10 will be constant but not necessarily the same  
11 as a frontal barrier.

12 Q You're not going to come to  
13 court and criticize the fire and no-fire  
14 thresholds that are set forth in Ford  
15 specifications, correct?

16 A That's correct.

17 Q I asked you whether -- strike  
18 that.

19 A I might wince at the  
20 eight-mile-an-hour, but I won't come in and  
21 jump up and down.

22 Q Can we go ahead and cross that  
23 out as an area that you're not going to  
24 address as a defect?

25 A Sure.



G. L. Mahon, P.E.

1 the 1996 Ford Contour air bag systems?

2 MR. SHUMWAY: Objection to form.

3 A Of course I would disagree with you  
4 on that.

5 Q For the reasons that you  
6 already told me?

7 A If you did the deer impact testing,  
8 you couldn't pass it with the dwell enhancer.  
9 If you didn't have the dwell enhancer, you  
10 would not have a deployment in this case so,  
11 yes, for the reasons that I already  
12 mentioned.

13 Q Would you agree with me that  
14 the air bag system passes the Federal Motor  
15 Vehicle Safety Standards under 208?

16 A I would agree that the vehicle  
17 passes FMBSS 208. I don't know that FMBSS  
18 208 is limited to the air bag itself.

19 Q So you're not going to come to  
20 court and say that the 1996 Ford Contour does  
21 not comply with FMBSS 208?

22 A Couldn't be sold if it didn't. It  
23 was already certified that it passed.  
24 There's no way for me to say that it didn't.

25 Q You have no evidence that the

G. L. Mahon, P.E.

1 1996 Ford Contour does not pass Federal Motor  
2 Vehicle Safety Standards 208?

3 A That is correct.

4 Q In fact, you have no evidence  
5 that the 1996 Ford Contour doesn't pass all  
6 of the FMBSS requirements, correct?

7 MR. SHUMWAY: Objection, form.

8 Q Would you agree with me that  
9 the 1996 Ford Contour passes all of the  
10 applicable Ford motor vehicle safety  
11 standards?

12 MR. SHUMWAY: Objection, form.

13 A I believe the question should be  
14 Federal Motor Vehicle Safety Standards.

15 Q Okay. I thought I said  
16 Federal.

17 A Would you agree with me that the  
18 1996 Ford Contour passes all of the Federal  
19 Motor Vehicle Safety Standards?

20 MR. SHUMWAY: Objection, form,  
21 foundation.

22 A Had to, or it couldn't have been  
23 sold in the first place. So, yes, it did.

24 Q Looking at your report we  
25 marked as Exhibit 3, you note that throughout

G. L. Mahon, P.E.

1 it there is different-sized fonts, correct?

2 A Well, I will note it when I get a  
3 chance to examine it.

4 Q Let me draw you to one  
5 example. Going to page 3, do you see in the  
6 bottom paragraph the font is in two different  
7 sizes?

8 A I don't think so.

9 Q You don't see that the word  
10 "angle barrier crashes" and the remaining  
11 part of that page is in a smaller type than  
12 the rest of the page?

13 A Just where is angle barrier crash?

14 Q It's toward the bottom, about  
15 the fifth line down.

16 A No.

17 Q Okay. Well, the report that  
18 we have has different-sized fonts, so perhaps  
19 the one you have in front of you -- did you  
20 do like a cut and paste from different  
21 reports when you prepared this report?

22 A For the discussion section of  
23 reports, I -- I sometimes do that, yes.

24 Q And would you agree with me  
25 that you did a cut and paste in a discussion

G. L. Mahon, P.E.

1 section of this report that we marked as  
2 Exhibit 3?

3 A Not necessarily cut and paste.  
4 Probably more like cut and create.

5 If you go back to the beginning of  
6 this paragraph, which begins, "The high and  
7 low speed barrier tests are very useful,"  
8 et cetera, I think you will find a paragraph  
9 beginning with that verbiage in almost every  
10 report I have ever written. However, the  
11 minimum impact speed of a Ford Contour would  
12 only appear in reports that I have written  
13 for Ford Contours and would be unique to this  
14 report.

15 Q What I would like you to do is  
16 to underline those portions of the discussion  
17 that are unique to that report.

18 A That will take some time.

19 Q Perhaps we can do that at the  
20 next break.

21 A That will take some time even at  
22 the next break, because I'm not sure I'm  
23 going to remember what I wrote for this  
24 report or not, and I'm not sure that I want  
25 to create an exhibit for trial without having

G. L. Mahon, P.E.

1 proper time to cogitate for each and every  
2 line in here.

3 Q Let's go this way: First  
4 paragraph on page 3 begins with, "Air bags  
5 are designed to deploy."

6 A I see that.

7 Q Everything in this paragraph  
8 is what you write for all of your reports?

9 A For the most part, yes.

10 Q The next paragraph, "It is  
11 important to note that the regulatory  
12 limits." Do you see that paragraph?

13 A I do.

14 Q That is also something that  
15 appears in most of your reports involving  
16 Ford motor vehicle cases?

17 A Yes. It's modified depending on  
18 the year and the manufacturer, but the  
19 essence of it is the same.

20 Q The next one that says, "The  
21 gray zone is required to allow for the  
22 stack-up of tolerance," do you see that?

23 A I do.

24 Q That's in all of your reports?

25 A That's in most of my reports, yes.

G. L. Mahon, P.E.

1           Q     You said that, "The high and  
2 low-speed barrier tests are very useful from  
3 an engineering standpoint because they are  
4 very repeatable." That's also in all of your  
5 reports?

6           A     That sentence is, and this is a  
7 paragraph that gets edited in various places  
8 from time to time.

9           Q     The portion of my copy of your  
10 report that has a smaller typed font begins  
11 with, "Angled barrier crashes," and it  
12 remains in a smaller font that continues to  
13 page 4.

14                     Assuming that different-sized  
15 font, would you agree that's the portion that  
16 you made for this report?

17           A     I'm not sure totally, because there  
18 may be other places where there was editing.  
19 If you edit in the middle of the paragraph,  
20 you get whatever font is in that paragraph.

21                     So if you cut and paste and add it  
22 to the middle, you get that font anyway, so  
23 there's no guarantee there's no changes in  
24 the middle of the paragraph from some other  
25 report that I may have cut it from.

G. L. Mahon, P.E.

1           Q     There may be cut and paste --  
2     I have some portions of the discussion  
3     section that has a smaller font than the  
4     rest, but I can't look to that and say that's  
5     something you did for this case and the rest  
6     is all cut and paste?

7           A     That's correct.

8           Q     You have on page 4 this  
9     reference to bag slap?

10          A     Yes.

11          Q     Do you have an opinion as to  
12     whether there was a bag slap here in this  
13     accident?

14          A     Well, in fact, I'm not doing the  
15     biomechanics. I believe there was.

16          Q     What's the basis for that  
17     opinion?

18          A     The kinds of injuries that we have  
19     are consistent with a high-velocity  
20     interaction of the tissue and the bag.

21          Q     Any other basis for that  
22     opinion?

23          A     That's plenty.

24          Q     Have you done any computer  
25     simulations of this accident?

G. L. Mahon, P.E.

1 all of the bases for your opinion that an air  
2 bag system that contains a dwell enhancer is  
3 defective and unreasonably dangerous.

4 A The dwell enhancer defeats the very  
5 purpose of a safing sensor by artificially  
6 extending the dwell of a discriminating  
7 sensor for a very long time.

8 As a result, any impact of a  
9 localized nature which would give a  
10 short-term closure to a crush zone  
11 discriminating sensor and a later closure to  
12 a safing sensor will result in an air bag  
13 deployment in an event that is less severe  
14 than the must-not-deploy threshold.

15 The deployment of an air bag when  
16 it's completely unnecessary and subjecting  
17 the occupant to air bag-induced injuries  
18 unnecessarily is, in my opinion, a defect.

19 Q What's your understanding of  
20 the definition of defect?

21 A A defect is a -- we're talking  
22 about -- let's be clear. You're talking  
23 about a design defect as opposed to a  
24 manufacturing defect, right?

25 Q You tell me. This is a design



G. L. Mahon, P.E.

1 defect case?

2 A That is correct. I said this is  
3 not a manufacturing defect case, so the  
4 question that I'm answering is on the  
5 understanding we're talking about a design  
6 defect.

7 Q Before we get to that, have I  
8 heard from you all of the bases for your  
9 opinion that the 1996 Ford Contour is --  
10 strike that.

11 Have I heard all of the bases  
12 that the air bag system in the 1996 Ford  
13 Contour has a design defect?

14 A The question that you asked me was  
15 vehicles that include a dwell enhancer in  
16 terms of defect, and that includes the --

17 Q Just to be clear, the only  
18 allegation of defect -- strike that.

19 Just to be clear, the only  
20 opinion of defect you have with respect to  
21 the air bag system and the 1996 Ford Contour  
22 that you're going to come to court and say in  
23 this case is the addition of the dwell  
24 enhancer, right?

25 A As I sit here now, that's correct.

G. L. Mahon, P.E.

1           Q     As you sit here today, you  
2     can't tell me anything about the other  
3     circumstances of the other deer impact tests  
4     that you contend are substantially similar?

5           A     That's correct.

6           Q     Have I heard all of your  
7     opinions that you're going to give in this  
8     case?

9           A     I certainly hope so.

10          Q     Have I heard all of the bases  
11     for opinions in this case, your opinions?

12          A     I think so.

13          Q     Do you have any current plans  
14     to do additional work in this case?

15          A     That depends on the outcome of the  
16     inspection which I will review, and on any  
17     testimony given by Ford experts which I will  
18     also review.

19          Q     Did anybody at Breed tell you  
20     that you could not put in writing your  
21     criticisms of the dwell enhancer and send it  
22     to Ford?

23          A     You know, Allen Breed might  
24     actually have said that, "Don't ever write a  
25     nasty letter to Ford."

**EXHIBIT C**

---

IN THE UNITED STATES DISTRICT COURT  
DISTRICT OF ARIZONA

Karen Elliott, an individual, )  
)  
Plaintiff, )  
)  
vs. ) No. CV 2004 0902  
) PHX SRB  
Ford Motor Company, a Delaware )  
Corporation, TRW Automotive Holdings, )  
Corp., a Delaware Corporation; and )  
Autoliv Inc., a foreign corporation, )  
Defendants. )  
)

THE EXPERT DEPOSITION OF MR. MICHAEL SHEPSTON

Phoenix, Arizona

June 8th, 2006

10:00 a.m.

Prepared for:  
THE COURT

Lori Hetland  
Certified Reporter  
License No. #50034

Mr. Michael Shepston

1           A.       We adjusted the bumper inspection and we  
2 removed the cover on the 26th, and I took laser measurements  
3 for the total station, and I'm having trouble downloading  
4 that in order to analyze that data.

5                   I was not able to provide that data. I do  
6 not anticipate that changing my opinions based on what I  
7 have seen.

8           Q.       Is there something you're going to do in the  
9 future to make that happen or for that download to work?

10          A.       I have to because I have other stuff I need  
11 to download as well, and I need to collect more data on the  
12 other cases, and right now I can't. I have to figure out  
13 what is going on with it, and I have called tech support as  
14 well.

15                   The total station seems to be fine. It's a  
16 problem I need to get rectified. I'm trying to get it  
17 rectified.

18          Q.       Did you consider anything you observed,  
19 measured, or learned at that inspection on June 26th that  
20 would affect your final opinions today?

21                   MR. SHUMWAY: I think you have the wrong  
22 date.

23                   MS. GOLDSMITH: What date was it? I had  
24 May 26th.

25                   THE WITNESS: No. I absolutely considered

Mr. Michael Shepston

1 it. Nothing changed my opinions.

2 BY MS. GOLDSMITH:

3 Q. Okay. So you actual have considered  
4 whatever you observed or measured or inspected on the 26th  
5 which was when the bumper cover was taken off the Elliott  
6 vehicle. Correct?

7 A. Yes.

8 Q. And based on that inspection your report is  
9 no different. Correct?

10 A. That would be correct. There may be some  
11 slight differences when I did the simulation. There were  
12 some marks that I saw that I believe were wiped off the  
13 bumper cover that I did not see during my inspection that  
14 would line up the vehicle, and that changes the alignment a  
15 little bit.

16 Q. How?

17 A. It moved it over -- moved the Elliott  
18 vehicle over to the right a little bit. We can go through  
19 the photographs.

20 Q. Fair enough. Going through Exhibit 2, I  
21 don't see any indications as to what you have reviewed or  
22 received in this case. Do you have such a list?

23 A. In my report, and I have basically  
24 everything here as far as my report is concerned.

25 Q. Let's mark your report as Exhibit No. 3.